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ABSTRACT

Previous research has shown that by varying instructional time, schools can better accommodate students' different rates of learning. One method that schools use to meet this challenge is block scheduling; different models which are described. The focus is on the benefits and disadvantages of various models. One of the benefits is block scheduling's ability to offer longer time periods to implement group cooperative/collaborative learning, hands-on activities, student projects, and integrated or interdisciplinary activities. Some of the models include the 4 x 4 plan, which features a two-semester school year where the school day is divided into four instructional periods, each approximately 90 minutes long; and the Alternate Day Plan, in which students take eight 90-minute classes that meet every other day. Some other models are also briefly described. Such plans allow teachers to extend explorations and put teachers in daily contact with fewer students. However, some research indicates that student achievement may not be sustained with block scheduling and the amount of subject area content may actually decrease. The report concludes with suggestions for implementing block scheduling, such as informing all stakeholders and creating evaluation strategies. (Contains 10 References.) (RJM)

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PREL BRIEFING PAPER

PACIFIC RESOURCES FOR EDUCATION AND LEARNING

Policy Briefing: Block Scheduling in Secondary Schools

Barbara Dougherty*

A *Nation at Risk* (1983) warned America that there was a crisis in education. Since then, educators have begun to instigate reforms leading to higher student achievement. Professional teacher organizations such as the National Council of Teachers of Mathematics, Congress with Goals 2000 (1994), and others have continued to motivate schools and educators to find ways to meet the challenge for higher student standards.

A reform effort initiated by Congress was the Education Council Act of 1991 which established the National Education Commission on Time and Learning. This commission was a nine-member advisory board charged with looking at how time impacts learning.

Their report, *Prisoners of Time* (1994), indicates that time is an important factor in implementing higher standards for all students. Time required to learn a new concept or skill varies from student to student, some requiring more time than others to reach a standard's criteria. Varying instructional time can help to accommodate these differences in learning. Schools are exploring this time factor with block scheduling. According to Cawelti (1994), block scheduling is used in some way by one in 10 high schools.

This paper describes different models of block scheduling, offers benefits and disadvantages of the models, and presents suggestions for schools considering block scheduling.

Descriptions of block scheduling models

As schools prepare students to live and work in a highly competitive global economy, they must deal with a variety of issues, including violence, poverty, unstable family situations, and students who have not experienced success in school. These issues are heightened as students enter the middle and high school grades (secondary schools).

Most secondary schools are making efforts to improve. One of the improvements has centered on having at least part of the daily schedule organized into longer blocks of instructional time, or block scheduling. In traditional

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schools, students usually attend a class for 45 to 50 minutes daily during the entire school year. Block scheduling offers alternatives for structuring time.

Why block scheduling? It is partly to answer the need for longer time periods to implement group cooperative/collaborative learning, hands-on activities, student projects, and integrated or interdisciplinary activities (Willis, 1993). Changing instruction to be more student-centered requires more time. To address this change, schools are adjusting the time periods allotted to subject areas.

Block scheduling has at least four different formats. In secondary schools, the 4x4 semester plan and the alternate day plan (or A/B schedule) are the most common, but other models are gaining ground. All models offer some flexibility for schools.

4x4 semester plan. The 4x4 semester plan (Canady & Rettig, 1995) divides the school year into two semesters. The school day is divided into four instructional periods, each approximately 90 minutes long. During the first semester, students meet daily in four courses that would have been stretched out over a full school year or 180 days. In the 4x4 plan, the content of these four courses is compressed into one semester of extended time periods. At the end of the first semester, students receive full credit for each course successfully completed. They then enroll in four additional courses for the spring semester.

4x4 Semester Plan

	Traditional Class Periods	Block Scheduling Semester 1	Block Scheduling Semester 2
CLASSES	1 2	Course 1	Course 5
	3 4	Course 2	Course 6
	5 6	Course 3	Course 7
	7 8	Course 4	Course 8

The 4x4 plan offers some flexibility. Some courses, such as honors or Advanced Placement courses, music courses, and any others that are considered important for a different time allotment, can be offered for the full year, meeting every day as in a traditional setting. For example, in semester 1, course 4 may be a block course or the school may have the option of dividing that block into two single period classes which meet all year. Music and other courses, such as sports or industrial arts, may be offered at that time. Students will then have the option of taking a block course for the semester or taking two single period courses for the year.

Teachers' schedules mirror students' schedules. Teachers typically teach three courses each semester. The remaining time block is for planning. Some schools, however, have requirements pertaining to the amount of time teachers may have to plan, restricting the time to approximately 45 minutes. In these cases, the planning time block is split. Half of it is used for planning, the other half is a duty period. In the duty period, teachers may be expected to do hall duty, monitor lunch rooms, work in the office, or perform other administrative or clerical jobs.

Alternate day plan. The alternate day plan (Canady & Rettig, 1995) is frequently called the A/B or 8-block plan. In this option, students take eight 90-minute classes that meet every other day. Four classes meet on Day A and the other four classes meet on Day B. This model also allows for schools where students take six or seven courses. In six-period schools, three of the classes meet on Day A and the other three meet on Day B. In seven-period schools, three courses meet in double blocks every other day, three other courses on alternate days. One course, called a singleton, meets daily in a single period or traditional format for the entire school year.

Courses meet an equal number of times throughout the school year. Holidays or the number of school days in a given week do not affect the total number of meeting days. Students, therefore, do not change their schedules at semester end. Teachers' schedules also do not change. What is different is planning. Teachers may not have a planning period each day. Instead, they may have a double planning period one day, no planning period the next, and so on.

Alternate Day Plan - 6 periods

	Mon. Day 1 (A)	Tues. Day 2 (B)	Wed. Day 1 (A)	Thurs. Day 2(B)	Fri. Day 1 (A)	Mon. Day 2(B)
P	1	2	1	2	1	2
E	1	2	1	2	1	2
R	3	4	3	4	3	4
I	3	4	3	4	3	4
O	5	6	5	6	5	6
D	5	6	5	6	5	6

Extended time. The extended time model (Canady & Rettig, 1995) offers flexibility in scheduling throughout the year with or without changing the class meeting times. Courses are divided into four parts. All students begin part one at the beginning of the year.

At the end of the first quarter, or nine weeks, teachers make a decision concerning whether each student is ready to move to part two. If not, the student spends the next quarter learning part one material again. At the end of the second quarter, some students will move to part three. Those who needed help on part one will move to part two. Those who need help with part two content will remain in part two for another quarter.

At the end of the third quarter, some students will move to part four of the course, the last piece required to finish the class. Other students could be in part two or part three. At the end of the year, some students will have completed the entire course. Others will begin the next school year where they left off.

Teaching assignments are different with this model. Each course requires a minimum of four teachers. All four teachers begin the school year teaching part one of the course. In the next quarter, at least one teacher will teach part one again while the other teachers will teach part two.

By the third quarter, two teachers will be teaching part two, and two teachers will be teaching part three. In the fourth quarter, one teacher will be teaching part two, one teacher teaching part three, and two teachers teaching part four.

At the beginning of the next school year, there will be students at varying levels. Schools need to plan what courses can be offered at each quarter to accommodate different student needs.

Extended time model

<table>
<tr><th>Quarters</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th></tr>
<tr><td>Teacher A</td><td>Part 1</td><td>Part 2</td><td>Part 3</td><td>Part 4</td><td colspan="4">Students take new course.
Teacher offers new course.</td></tr>
<tr><td>Teacher B</td><td>Part 1</td><td>Part 2</td><td>Part 3</td><td>Part 4</td><td>Part 4</td><td>Computer Lab</td><td colspan="2" rowspan="2">1/2 credit electives available</td></tr>
<tr><td>Teacher C</td><td>Part 1</td><td>Part 2</td><td>Part 2</td><td>Part 3</td><td>Part 3</td><td>Part 4</td></tr>
<tr><td>Teacher D</td><td>Part 1</td><td>Part 1</td><td>Part 2</td><td>Part 2</td><td>Part 3</td><td>Part 3</td><td>Part 4</td><td>Part 4</td></tr>
</table>

This model was meant to accommodate a wide range of student achievement levels. Students who learn quickly can move on to another part of the content in the course or even another academic course. Those who are failing at the end of the first quarter can repeat that part immediately rather than waiting until the following school year. It is believed that students who typically sat through an entire year of a class they were already failing will be less likely to cause disruptive behavior. (Canady & Rettig, 1995)

Copernican Plan. The Copernican Plan (Carroll, 1994) reconfigures the school year from two 18-week semesters to six 6-week semesters. Students take two courses each semester, studying them intensively for a minimum of 2.5 hours per day. At the end of each semester, students enroll in two new courses. Student and teacher schedules change every 30 days. However, the school year maintains 180 days for student attendance.

A variation of the Copernican Plan is to increase the school year to 200 days. In this variation, students and teachers work with four 10-week sessions. Students still take two classes each session, studying them intensively for 2.5 hours per day.

Other models. While each of the above models allows for variations suited to the needs of the district and its students, other options are also possible by restructuring the way schools days are configured. For example, some districts use the 4x4 model with a 75-15 split. That is, students take four classes in a 75-day term, followed by a 15-day intersession.

At the end of the term, teachers decide whether each student has learned the content of the course. If so, the student moves to an enrichment period during the 15-day intersession. If not, each student receives remedial instruction during that three-week period. Then, the students are ready for the next course at the start of the new term.

Another way to create different time periods is to use a Trimester Plan. A trimester runs for 60 days, during which students take two or three courses. They take different courses in the next 60-day session. Three trimesters constitute a school year. Students can earn six to nine credits per year on this system.

Benefits and disadvantages of block scheduling

Benefits. The benefits of block scheduling vary from school to school. The following are specific benefits for schools, as found in literature and anecdotal reports:

- Larger blocks of time allow the classroom environment to change. Teachers can include extended explorations or projects in the instructional process. Instruction is more interactive and student-centered.

- Teachers have daily contact with fewer students. A traditional schedule in secondary schools usually means that teachers work with 125 or more students each day. With block scheduling, student loads are decreased (on a daily and semester basis) allowing teachers more time to get to know their students better.

- The number of discipline problems decreases. This may be partly attributed to fewer opportunities for negative interactions between classes because students change classes less frequently. Or, it may be due to higher student engagement during class time. Because teachers usually change their instruction to be more student active, students have fewer opportunities during class for disruptive behavior.

- Because all students do not learn at the same rate, block scheduling allows students more instructional time. The rigidity of the traditional period does not provide students any extra time to adjust to their learning needs.

- Traditional school days are broken up into as many as eight periods a day. This fragmentation leaves little time for students to build connections among and between topics and subjects. There is not enough time to explore an idea in depth.

Disadvantages. The disadvantages of block scheduling, like the benefits, are dependent upon the school environment, implementation of ideas, and student achievement. Some of the disadvantages are as follows:

- There is evidence that student achievement may not be sustained with block scheduling (Bateson, 1990). Data show that students in all-year courses consistently perform better than students in semester-long science classes at the high school level. Another study (Raphael, Wahlstrom, & McLean, 1986; Raphael & Wahlstrom, 1986) shows similar findings in high school mathematics. These studies suggest that retention may be a problem.

- Instruction in the classroom may not change. Although the longer periods lend themselves to more student-centered instruction, many teachers use the extra time for students to do homework or other in-class worksheets. Therefore, the instruction remains passive for students.

- The amount of subject area content may decrease. The course curricula in secondary schools have not been changed in many years, despite recent recommendations from professional organizations such as the National Council of Teachers of Mathematics. The course content has continued to include skills that are trivial in today's world. In semester courses, teachers tend to focus on these more traditional skills, eliminating important concepts necessary for literacy in competitive economic societies.

- The content that is presented may be "watered down." There may be the tendency to focus on simpler or lower-level skills due to the shortened course length. This may inflate grades and give a false sense that students are achieving well.

- Students who transfer in or out of a block schedule school may be at a disadvantage. If they are coming into a school that is block scheduled, they may miss content that was already covered in the block course with a faster pace. Consequently, if students transfer out of a block scheduled school, they may be repeating material that was already covered.

- Certain courses, by nature, require year-long involvement of the students. Music courses, such as band and choir, may not have the continuity needed if students only take these courses for one semester. Sports programs are also affected. Modifications must be made in scheduling to allow these courses to be taught year long. This, however, may create other scheduling problems for teachers and students.

- Missing one day of a block schedule course is equivalent to missing at least two days in a traditional course. Students who do not have good attendance records may find themselves getting further and further behind. Helping these students catch up on the missed content places more responsibility on teachers and students alike.

Suggestions for schools considering block scheduling

Implementing block scheduling has many challenges for secondary schools. Schools must plan how to meet these challenges before they begin implementing a block scheduling program.

The following suggestions are general guidelines for organizing and using a block scheduling program. Schools need to consider their own specific setting and the needs of teachers and students in crafting their long-term implementation plan.

1. **Inform all stakeholders.**
   The superintendent, school board, principals, teachers, parents, and students should have the opportunity to learn about the various models of block scheduling and their associated pros and cons. Informational sessions may be appropriate times to disseminate relevant research data and other information. Adequate time for question and answer periods must be provided for the stakeholders.

2. **Visit schools that have block schedules.**
   If possible, visit other schools that are using a block schedule format. Talk with administrators, teachers, students, and parents at that site. Prior to the visit, identify some important areas to focus observations and interviews. Ask the site to share any data that support the success of block scheduling in their school.

3. **Schedule appropriate discussion meetings.**
   It is important to have a series of meetings during which stakeholders can discuss issues. Faculty meetings may include a panel presentation by teachers from schools using block scheduling. Parent and community meetings may include the same panel presentation with teachers and administrators from the local school also presenting. Students need to be informed as well. An all-school assembly may be held with student speakers from schools using the block schedules to answer questions and share their opinions about block schedules.

4. **Get consensus and approval.**
   Support from administration is crucial to the success of this program. The school board should be involved in meetings where they can learn about block scheduling. Then, approval should be granted by them. Consensus of the faculty and other appropriate stakeholders in the school is also necessary.

5. **Provide appropriate and sustained staff development.**
Curriculum is a key factor in implementing block scheduling. Faculty and administrators need to understand the school's curriculum and then closely scrutinize it for adjustments to block scheduling. Textbooks and other classroom materials will need adaptations and revisions to be appropriate for class use.
Instructional techniques must not be neglected. Teachers need to develop a repertoire of instructional tools, including cooperative/collaborative group work strategies, higher-order questioning techniques, technology, and student-centered projects. Traditional lecture is not appropriate for 90-minute class periods.

Assessment strategies should also be aligned with the subject area content and instructional techniques. Grading issues should be evaluated for their appropriateness to the assessment strategies. Given the changes in instructional techniques, assessment strategies should include performance-based tasks with an associated rubric.

6. **Plan evaluation strategies for the program.**
Any new program implemented in schools should have an evaluation component. Before implementing block scheduling, decisions on how to evaluate the success of the program and its effects on student achievement must be made. Other factors including teacher and student attitudes or community support may also need consideration in the evaluation plan.

Summary

Block scheduling is receiving much attention. As school personnel consider this method of creating flexibility in instruction time, they must weigh the pros and cons of each model. The model should fit the students' needs and match the community, school, faculty, and student expectations and situation.

Adequate planning is required if block scheduling is to be successful. It requires informing all stakeholders, gaining consensus, and providing adequate training for administrators and faculty.

Without a complete understanding of what it is and how it is to be implemented, block scheduling can become only a scheduling or time issue rather than a means to produce higher student achievement.

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